**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. - 9. (cancelled).

10. (currently amended): An automatic programming method of dividing a machining area into a first process region in which one end of a work model is held for a machining and a second process region in which other end of the work model is held for the machining after the machining in the first process region, and creating a program for controlling a numerical control unit based on the division of the machining area, the automatic programming method comprising:

a first process including: ~~calculating a volume of the machining area; and~~

extracting a turning area from the whole machining area that includes the turning area in which a turning is performed and a non-turning area in which machining other than the turning is performed after the turning;

dividing the extracted turning area into an inner diameter machining side and an outer diameter machining side;

obtaining a process-dividing position on the inner diameter machining side that indicates a boundary between the first process region and the second process region on the inner diameter machining side, and a process-dividing position on the outer diameter

machining side that indicates a boundary between the first process region and the second process region on the outer diameter machining side;

determining a region from the obtained process-dividing positions on the inner diameter machining side and the outer diameter machining side to the one end of the work model as the first process region; and

determining a region from the obtained process-dividing positions on the inner diameter machining side and the outer diameter machining side to the other end of the work model as the second process region; and

a second process including:

determining the non-turning area as the second process region in such a manner that the non-turning machining area belongs to the second process region, if the determined process-dividing position on the inner diameter machining side or the process-dividing position on the outer diameter machining side is within the non-turning area; and

creating and outputting the program for controlling the numerical control unit based on the determining in the first process and the second process.

~~calculating a process-dividing position that evenly divides the calculated volume of the machining area in a direction of a turning axis as a process-dividing position indicating a boundary between the first process region and the second process region;~~

~~determining a region from the process-dividing position to the one end of the work model as the first process region; and~~

~~determining a region from the process-dividing position to the other end of the work model as the second process region.~~

11. (previously presented): The automatic programming method according to claim 10, wherein

the calculating of the first process includes

dividing the volume of the machining area, excluding an end-face machining area where an end-face machining is performed for both end faces in a direction of a turning axis from the whole machining area into an inner-diameter machining side and an outer-diameter machining side; and

calculating volumes of the inner-diameter machining side and the outer-diameter machining side, respectively, and

the calculating of the second process includes

calculating a position that evenly divides the volume of the inner-diameter machining side as a process-dividing position on the inner-diameter machining side; and

calculating a position that evenly divides the volume of the outer-diameter machining side as a process-dividing position on the outer-diameter machining side.

12. (previously presented): The automatic programming method according to claim 11, wherein

the calculating of the first process further includes

obtaining the machining area excluding the end-face machining area from the whole machining area;

dividing a turning area where a turning is performed from among the machining area excluding the end-face machining area into the inner-diameter machining side and the outer-diameter machining side; and

calculating volumes of the inner-diameter machining side and the outer-diameter machining side, respectively, and

the calculating of the second process further includes

deriving a position that evenly divides the volume of the turning area on the inner-diameter machining side as the process-dividing position on the inner-diameter machining side; and

deriving a position that evenly divides the volume of the turning area on the outer-diameter machining side as the process-dividing position on the outer-diameter machining side.

13. (withdrawn/currently amended): An automatic programming method of dividing a machining area, which is the difference between a product model and a work model, into a first process region in which one end of ~~a~~ the work model is held for a machining and a second process region in which other end of the work model is held for the machining, and creating a program for controlling a numerical control unit based on the division of the machining area, the automatic programming method comprising:

a first process including:

dividing the machining area into a machining area on an inner diameter machining side and a machining area on an outer diameter machining side; and

calculating volumes of the machining area on the inner-diameter machining side and the machining area on the outer-diameter machining side, respectively;

a second process including:

calculating a position that evenly divides the calculated volume of the machining area on the inner diameter machining side in a direction of a turning axis as a process-dividing position on the inner diameter machining side that indicates a boundary between the first process region and the second process region;

calculating a position that evenly divides the calculated volume of the machining area on the outer diameter machining side as a process-dividing position on the outer diameter machining side;

determining a region from the process-dividing positions on the inner diameter machining side and the outer diameter machining side to the one end of the work model as the first process region; and

determining a region from the process-dividing positions on the inner diameter machining side and the outer diameter machining side to the other end of the work model as the second process region;

a third process including:

displaying a plurality of characteristics of the product model as candidates for the process-dividing positions on the inner diameter machining side and the outer diameter machining side; and

correcting the process-dividing positions on the inner diameter machining side and the outer diameter machining side determined at the second process based on a candidate position selected by a user, and

creating and outputting the program for controlling the numerical control unit based on said determining operations.

~~calculating a distance obtained by adding a predetermined length to a chucking allowance of a jig model at a first process;~~

~~calculating a position away from one end of the work model by the calculated distance in a direction of a turning axis as a process-dividing position indicating a boundary between the first process region and the second process region;~~

~~determining a region from the process-dividing position to the one end of the work model as the first process region; and~~

~~determining a region from the process-dividing position to the other end of the work model as the second process region.~~

14. (currently amended): A computer-readable recording medium that stores a computer program for dividing a machining area into a first process region in which one end of a work model is held for a machining and a second process region in which other end of the work model is held for the machining after the machining in the first process region, and creating a program for controlling a numerical control unit based on the division of the machining area, wherein

the computer program causes a computer to execute:

a first process including: ~~calculating a volume of the machining area; and~~

extracting a turning area from the machining area that includes the turning area in which a turning is performed and a non-turning area in which a machining other than the turning is performed after the turning;

dividing the extracted turning area into an inner diameter machining side and an outer diameter machining side;

obtaining a process-dividing position on the inner diameter machining side that indicates a boundary between the first process region and the second process region on the inner diameter machining side, and a process-dividing position on the outer diameter machining side that indicates a boundary between the first process region and the second process region on the outer diameter machining side;

determining a region from the obtained process-dividing positions on the inner diameter machining side and the outer diameter machining side to the one end of the work model as the first process region; and

determining a region from the obtained process-dividing positions on the inner diameter machining side and the outer diameter machining side to the other end of the work model as the second process region;

a second process including:

determining the non-turning area in such a manner that the non-turning machining area belongs to the second process region, if the determined process-dividing position on the inner diameter machining side or the process-dividing position on the outer diameter machining side is within the non-turning area; and

creating and outputting the program for controlling the numerical control unit based on the determining in the first process and the second process.

~~calculating a process-dividing position that evenly divides the calculated volume of the machining area in a direction of a turning axis as a process-dividing position indicating a boundary between the first process region and the second process region;~~

~~determining a region from the process-dividing position to the one end of the work model as the first process region; and~~

~~determining a region from the process-dividing position to the other end of the work model as the second process region.~~

15. (withdrawn/currently amended): A computer-readable recording medium that stores a computer program for dividing a machining area, which is the difference between a product model and a work model, into a first process region in which one end of ~~a~~ the work model is held for a machining and a second process region in which other end of the work model is held for the machining, and creating a program for controlling a numerical control unit based on the division of the machining area, wherein

the computer program causes a computer to execute:

dividing the machining area into a machining area on an inner diameter machining side and a machining area on an outer diameter machining side; and

calculating volumes of the machining area on the inner-diameter machining side and the machining area on the outer-diameter machining side, respectively;

calculating a position that evenly divides the calculated volume of the machining area on the inner diameter machining side in a direction of a turning axis as a process-dividing position on the inner diameter machining side indicating a boundary between the first process region and the second process region;

calculating a position that evenly divides the calculated volume of the machining area on the outer diameter machining side as a process-dividing position on the outer diameter machining side;

determining a region from the process-dividing positions on the inner diameter machining side and the outer diameter machining side to the one end of the work model as the first process region; and

determining a region from the process-dividing positions on the inner diameter machining side and the outer diameter machining side to the other end of the work model as the second process region;

displaying a plurality of characteristics of the product model as candidates for the process-dividing positions on the inner diameter machining side and the outer diameter machining side; and

correcting the process-dividing positions on the inner diameter machining side and the outer diameter machining side determined at the second process based on a candidate position selected by user, and

creating and outputting the program for controlling the numerical control unit based on said determining operations.

~~calculating a distance obtained by adding a predetermined length to a chucking allowance of a jig model at a first process;~~

~~calculating a position away from one end of the work model by the calculated distance in a direction of a turning axis as a process-dividing position indicating a boundary between the first process region and the second process region;~~

~~determining a region from the process-dividing position to the one end of the work model as the first process region; and~~

~~determining a region from the process-dividing position to the other end of the work model as the second process region.~~

16. (currently amended): An automatic programming device that divides a machining area into a first process region in which one end of a work model is held for a machining and a second process region in which other end of the work model is held for the machining after the machining in the first process region, and creates a program for controlling a numerical control unit based on the division of the machining area, the automatic programming device comprising:

a memory unit storing software instructions; and

a processor executing said software instructions,

wherein the software instructions comprise:

a volume calculating unit that calculates a volume of the machining area; ~~and~~

a process dividing unit that extracts a turning area from the machining area that includes the turning area in which turning is performed and a non-turning area in which machining other than the turning is performed after the turning, divides the extracted turning area into an inner diameter machining side and an outer diameter machining side, obtains a process-dividing position on the inner diameter machining side that indicates a boundary between the first process region and the second process region on the inner diameter machining side, and a process-dividing position on the outer diameter machining side that indicates a boundary between the first process region and the second process region on the outer diameter machining side, determines a region from the obtained process-dividing positions on the inner diameter machining side and the outer diameter machining side to the one end of the work model as the first process region, and determines a region from the obtained process-dividing positions on the inner diameter

machining side and the outer diameter machining side to the other end of the work model as the second process region;

a process-division correcting unit that determines the non-turning area as in such a manner that the non-turning machining area belongs to the second process region, if the determined process-dividing position on the inner diameter machining side or the process-dividing position on the outer diameter machining side is within the non-turning area, and

a program creating unit that creates and outputs the program for controlling the numerical control unit based on operations of the process dividing unit and the process-division correcting unit.

~~a process-dividing unit that calculates a process-dividing position that evenly divides the calculated volume of the machining area in a direction of a turning axis as a process-dividing position indicating a boundary between the first process region and the second process region, determines a region from the process-dividing position to the one end of the work model as the first process region, and determines a region from the process-dividing position to the other end of the work model as the second process region.~~

17. (previously presented): The automatic programming device according to claim 16, wherein

the volume calculating unit divides the volume of the machining area, excluding an end-face machining area where an end-face machining is performed for both end faces in a direction of a turning axis from the whole machining area into an inner-diameter machining side and an

outer-diameter machining side, and calculates volumes of the inner-diameter machining side and the outer-diameter machining side, respectively, and

the process dividing unit calculates a position that evenly divides the volume of the inner-diameter machining side as a process-dividing position on the inner-diameter machining side, and calculates a position that evenly divides the volume of the outer-diameter machining side as a process-dividing position on the outer-diameter machining side.

18. (previously presented): The automatic programming device according to claim 17, wherein

the volume calculating unit obtains the machining area excluding the end-face machining area from the whole machining area, divides a turning area where a turning is performed from among the machining area excluding the end-face machining area into the inner-diameter machining side and the outer-diameter machining side, and calculates volumes of the inner-diameter machining side and the outer-diameter machining side, respectively, and

the process dividing unit derives a position that evenly divides the volume of the turning area on the inner-diameter machining side as the process-dividing position on the inner-diameter machining side, and derives a position that evenly divides the volume of the turning area on the outer-diameter machining side as the process-dividing position on the outer-diameter machining side.

19. (withdrawn/currently amended): An automatic programming device that divides a machining area, which is the difference between a product model and a work model into a first process region in which one end of ~~a~~ the work model is held for a machining and a second

process region in which other end of the work model is held for the machining, and creates a program for controlling a numerical control unit based on the division of the machining area, the automatic programming device comprising:

a memory unit storing software instructions; and

a processor executing said software instructions,

wherein the software instructions comprise:

a volume calculating unit that divides the machining area into a machining area on an inner diameter machining side and a machining area on an outer diameter machining side, and calculates volumes of the machining area on the inner-diameter machining side and the machining area on the outer-diameter machining side, respectively;

a process dividing unit that calculates a position that evenly divides the calculated volume of the machining area on the inner diameter machining side in a direction of a turning axis as a process-dividing position on the inner diameter machining side that indicates a boundary between the first process region and the second process region, calculates a position that evenly divides the calculated volume of the machining area on the outer diameter machining side as a process-dividing position on the outer diameter machining side, determines a region from the process-dividing positions on the inner diameter machining side and the outer diameter machining side to the one end of the work model as the first process region, and determines a region from the process-dividing positions on the inner diameter machining side and the outer diameter machining side to the other end of the work model as the second process region;

a process-division correcting unit that displays a plurality of characteristics of the product model as candidates for the process-dividing positions on the inner diameter machining side and the outer diameter machining side, and corrects the process-dividing positions on the inner diameter machining side and the outer diameter machining side determined at the second process based on a candidate position selected by a user; and

a program creating unit that creates and outputs the program for controlling the numerical control unit based on operations of the process dividing unit and the process-division correcting unit.

~~a process-dividing unit that calculates a distance obtained by adding a predetermined length to a chucking allowance of a jig model at a first process, calculates a position away from one end of the work model by the calculated distance in a direction of a turning axis as a process-dividing position indicating a boundary between the first process region and the second process region, determines a region from the process-dividing position to the one end of the work model as the first process region, and determines a region from the process-dividing position to the other end of the work model as the second process region.~~